

### **REMARKS**

A final Office Action was mailed on February 6, 2008. Applicants timely filed a Response to final Office Action on April 2, 2008. An Advisory Action was mailed on April 25, 2008, indicating that the Response of April 2 would be not be entered, as the amendments to claim 5 and new claims 8 and 9 will require further consideration and/or search. Applicants timely file this Preliminary Amendment together with a Request for Continued Examination (RCE) and a Petition for a one-month extension of time.

Reconsideration of the application is respectfully requested.

#### **I. Status of the Claims**

Claims 1, 3 - 5 and 7 are presently pending, with claims 2 and 6 having previously been canceled without prejudice or disclaimer. Applicants amend claims 1, 3 and 5, and add new claims 8 and 9. No new matter is introduced. Support for the amendments may be found, for example, with reference to Applicant's specification at page 7, line 27 through page 8, line 8, page 10, line 21 through page 12, line 3, and with reference to Applicants' FIGs. 2 and 3.

#### **II. Objection to Claims**

Claims 5 is objected to under 37 C.F.R. §1.75(c) as being in improper form for failing to limit the subject matter of a previous claim. Applicants amend claim 5 to place it in proper form, and respectfully request that the objection to the claims be withdrawn.

### III. Claim Rejections under 35 U.S.C. § 102

Claims 1, 3 - 5 and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by Elson et al. (U.S. Patent No. 5,466,229, herein "Elson"). Applicants respectfully traverse this rejection

In independent claim 1, Applicants claim:

#### 1. A vacuum control system comprising:

a controller for monitoring the inside pressure of a vacuum vessel using a pressure sensor, and controlling a voltage applied to the DC brushless motor on the basis of an output signal resulting from measurement of the inside pressure of the vacuum vessel by the pressure sensor to control the displacement of an exhaust vacuum pump; and

an air introduction device inserted in a vacuum exhaust path provided by a vacuum exhaust pipe that interconnects the vacuum vessel to the exhaust vacuum pump, the air introduction device being inserted in the vacuum exhaust path at a position on the vacuum exhaust pipe between the vacuum vessel and the exhaust vacuum pump, for continuously introducing a controlled amount of air into the vacuum exhaust pipe, wherein

the controller is operable to hold the degree of vacuum in the vacuum vessel constant.

(Emphasis added).

Elson discloses a fluid collection apparatus for the controlled collection of body fluids, including a collection vessel 12, a vacuum pump 14, a controller 18, a pressure sensor 236 and a motor 44 (see, e.g., abstract, Col. 4: 31 - Col. 5: 18, Col. 10: 10 - Col. 12: 66 and FIGs. 1, 2, 9a and 9b of Elson). Elson's fluid collection apparatus further includes a valve 26 having a vent 98, vent opening 96, seals 92 and 93, piston 88 and threaded fitting 74 (see, e.g., Col. 7: 44 - Col. 9: 15 and FIGs. 5a - 5c of Elson).

The Examiner suggests that Elson's vent 98 corresponds to Applicants' claimed air introduction device. Applicants respectfully disagree. In independent claim 1, Applicants claim an air introduction device that is inserted in a vacuum exhaust path connecting the vacuum vessel to the exhaust vacuum pump. With reference, for example, to FIGs. 4c and 5c of Elson, it can be seen that the vent 98 is inserted into the collection vessel 12 (which the Examiner suggests is equivalent to Applicants' claimed vacuum vessel), at a position that is well away from the port 40 at which a vacuum line 130 provides an interconnection between the pump 14 and the collection vessel 12. The vent 98 is not inserted in the vacuum line 120 that interconnects the vessel 12 to the pump 14. Rather, the Examiner suggests that the vent 98 interconnects with a lumen 73 that corresponds to Applicants' claimed vacuum exhaust path. However, the lumen 72 does not provide an interconnection between the pump 14 and the collection vessel 12.

In the Advisory Action of April 25, the Examiner argues that Elson does disclose Applicants' claimed air introduction device that is inserted in a vacuum exhaust path connecting the vacuum vessel to the exhaust vacuum pump as vent tube 98 of FIG. 5c, assuming that the exhaust path begins with shell lumen 72 of FIG. 5c, and continues through the vessel 12 and baffle 140 and vacuum line 130 of FIGs. 9a and 10 and through the pump 14 and exhaust line 162 of FIG. 10.

In the interests of prosecution efficiency, Applicants amend claim 1 to specify that the air introduction device is inserted in a vacuum exhaust path provided by a vacuum exhaust pipe that interconnects the vacuum vessel to the exhaust vacuum pump, the air introduction device being inserted in the vacuum exhaust path at a position on the vacuum exhaust pipe between the vacuum vessel and the exhaust vacuum pump. Applicants respectfully submit that the vacuum

exhaust pipe and air introduction device as claimed in amended independent claim 1 are neither taught nor suggested by Elson.

As a result, Applicants further submit that amended independent claim 1 stands in condition for allowance. As claim 5 has been amended, *inter alia*, in independent form to incorporate the limitations of claim 1, Applicants submit that amended independent claim 5 is also in condition for allowance for at least the same reasons. As claims 4 and 7 depend from allowable claims 1 and 5, respectively, Applicants further submit that dependent claims 4 and 7 are also allowable for at least this reason.

In independent claim 3, Applicants claim:

3. A constant circulation resistance tube which is formed by coaxially inserting a resistance adjusting rod into a hollow capillary and which can control a flow rate of gas circulating between an inner circumference of the hollow capillary and an outer circumference of the resistance adjusting rod by adjusting a circulation resistance of the gas, wherein the circulation resistance can be adjusted by varying an insertion length of the resistance adjusting rod inserted into the hollow capillary, and wherein a separation preventing short tube is fitted to an outer circumference of the hollow capillary at an opening end, the separation preventing short tube being fitted to prevent movement of the adjusting rod and thereby fix the circulation resistance.

(Emphasis added).

The Examiner suggests that Elson's tubular outer shell 68 corresponds to Applicants' claimed constant circulation resistance tube, and that Elson's freely rotating threaded connector 74 corresponds to Applicants' claimed separations preventing short tube (see, e.g., FIG. 5c of Elson). Applicants respectfully disagree.

In sharp contrast to Applicants' invention as claimed, fitting freely rotating threaded connector 74 to the valve 26 does not act to fix piston 86/88 (which the Examiner suggests corresponds to Applicants' claimed resistance adjusting rod) so that a circulation resistance can

be fixed. Rather, connector 74 merely fixes the valve 26 to the vessel 12. As is described for example at Col. 8, lines 38 - 44 of Elson, once the valve 26 has been fixed to the vessel 12 by fitting freely rotating threaded connector 74, knob 112 is operable to slide piston 86/88 within the valve 26 in order to drain and vent the vessel 12. Thus, in sharp contrast to Applicants' separations preventing short tube as claimed in independent claim 3, fitting freely rotating threaded connector 74 is not configured to fix a circulation resistance of the piston 86/88 of valve 26.

In the Advisory Action of April 25, the Examiner argues that Elson discloses a threaded element 74 of FIG. 5c that fixes a circulation resistance to an ambient level around piston 88 when piston 88 is fully extended and threaded element 74 is unscrewed. In the interests of prosecution efficiency, Applicants amend claim 3 to further clarify that the separation preventing short tube is fitted to prevent movement of the adjusting rod, and thereby fix circulation resistance. Applicants respectfully submit that the preventing short tube device as claimed in amended independent claim 3 is neither taught nor suggested by Elson.

As a result, Applicants submit that amended independent claim 3 is not anticipated by Elson, and stands in condition for allowance. Applicants also amend claims 4 and 7 to claim a separations preventing short tube as claimed in allowable claim 3, and submit that claims 4 and 7 are allowable on the additional grounds argued with regard to allowable independent claim 3.

Therefore, Applicants respectfully request that the rejections of claims 1, 3, 5 and 7 under 35 U.S.C. §102(b) be withdrawn.

### **III. New Claims**

Applicants add new claims 8 and 9, each of which depend from allowable independent claim 3. Applicants respectfully submit that new claims 8 and 9 are also allowable for at least this reason.

**CONCLUSION**

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance. If there are any remaining issues which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

By 

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